CHAPTER 23 EMISSION STANDARDS FOR CONTAMINANTS

[Prior to 7/1/83, DEQ Ch 4] [Prior to 12/3/86, Water, Air and Waste Management[900]]

567—23.1(455B) Emission standards.

- **23.1(1)** In general. The federal standards of performance for new stationary sources (new source performance standards) shall be applicable as specified in subrule 23.1(2). The federal standards for hazardous air pollutants (national emission standards for hazardous air pollutants) shall be applicable as specified in subrule 23.1(3). The federal standards for hazardous air pollutants for source categories (national emission standards for hazardous air pollutants for source categories) shall be applicable as specified in subrule 23.1(4). The federal emission guidelines (emission guidelines) shall be applicable as specified in subrule 23.1(5). Compliance with emission standards specified elsewhere in this chapter shall be in accordance with 567—Chapter 21.
- **23.1(2)** New source performance standards. The federal standards of performance for new stationary sources, as defined in 40 Code of Federal Regulations Part 60 as amended or corrected through June 12, 1997, and 40 CFR Part 503 as adopted on October 25, 1995, are adopted by reference, except \$60.530 through \$60.539b, and shall apply to the following affected facilities. The corresponding 40 CFR Part 60 subpart designation is in parentheses. Reference test methods (Appendix A), performance specifications (Appendix B), determination of emission rate change (Appendix C), quality assurance procedures (Appendix F) and the general provisions (Subpart A) of 40 CFR Part 60 also apply to the affected facilities.
- a. Fossil fuel-fired steam generators. A fossil fuel-fired steam generating unit of more than 250 million Btu heat input for which construction, reconstruction, or modification is commenced after August 17, 1971. Any facility covered under paragraph "z" is not covered under this paragraph. (Subpart D)
 - b. Incinerators. An incinerator of more than 50 tons per day charging rate. (Subpart E)
- c. Portland cement plants. Any of the following in a Portland cement plant: kiln; clinker cooler; raw mill system; finish mill system; raw mill dryer; raw material storage; clinker storage; finished product storage; conveyor transfer points; bagging and bulk loading and unloading systems. (Subpart F)
 - d. Nitric acid plants. A nitric acid production unit. (Subpart G)
 - e. Sulfuric acid plants. A sulfuric acid production unit. (Subpart H)
 - f. Asphalt concrete plants. An asphalt concrete plant. (Subpart I)
- g. Petroleum refineries. Any of the following at a petroleum refinery: fluid catalytic cracking unit catalyst regenerator; fluid catalytic cracking unit incinerator-waste heat boilers; fuel gas combustion devices; and claus sulfur recovery plants greater than 20 long tons per day. (Subpart J)
- h. Secondary lead smelters. Any of the following in a secondary lead smelter: pot furnaces of more than 250 kilograms (550 pounds) charging capacity; blast (cupola) furnaces; and reverberatory furnaces. (Subpart L)
- i. Secondary brass and bronze ingot production plants. Any of the following at a secondary brass and bronze ingot production plant; reverberatory and electric furnaces of 1000/kilograms (2205 pounds) or greater production capacity and blast (cupola) furnaces of 250 kilograms per hour (550 pounds per hour) or greater production capacity. (Subpart M)
 - j. Iron and steel plants. A basic oxygen process furnace. (Subpart N)
- k. Sewage treatment plants. An incinerator which burns the sludge produced by municipal sewage treatment plants. (Subpart O of 40 CFR 60 and Subpart E of 40 CFR 503.)

- *l.* Steel plants. Either of the following at a steel plant: electric arc furnaces and dust-handling equipment, the construction, modification, or reconstruction of which commenced after October 21, 1974, and on or before August 17, 1983. (Subpart AA)
- m. Primary copper smelters. Any of the following at a primary copper smelter: dryer, roaster, smelting furnace and copper converter. (Subpart P)
- n. Primary zinc smelters. Either of the following at a primary zinc smelter: a roaster or a sintering machine. (Subpart Q)
- o. Primary lead smelter. Any of the following at a primary lead smelter: sintering machine, sintering machine discharge end, blast furnace, dross reverberatory furnace, converter and electric smelting furnace. (Subpart R)
- *p.* Primary aluminum reduction plants. Either of the following at a primary aluminum reduction plant: potroom groups and anode bake plants. (Subpart S)
- *q.* Wet process phosphoric acid plants in the phosphate fertilizer industry. A wet process phosphoric acid plant, which includes any combination of the following: reactors, filters, evaporators and hotwells. (Subpart T)
- r. Superphosphoric acid plants in the phosphate fertilizer industry. A superphosphoric acid plant which includes any combination of the following: evaporators, hotwells, acid sumps, and cooling tanks. (Subpart U)
- s. Diammonium phosphate plants in the phosphate fertilizer industry. A granular diammonium phosphate plant which includes any combination of the following: reactors, granulators, dryers, coolers, screens and mills. (Subpart V)
- t. Triple super phosphate plants in the phosphate fertilizer industry. A triple super phosphate plant which includes any combination of the following: mixers, curing belts (dens), reactors, granulators, dryers, cookers, screens, mills and facilities which store run-of-pile triple superphosphate. (Subpart W)
- u. Granular triple superphosphate storage facilities in the phosphate fertilizer industry. A granular triple superphosphate storage facility which includes any combination of the following: storage or curing piles, conveyors, elevators, screens and mills. (Subpart X)
- v. Coal preparation plants. Any of the following at a coal preparation plant which processes more than 200 tons per day: thermal dryers; pneumatic coal cleaning equipment (air tables); coal processing and conveying equipment (including breakers and crushers); coal storage systems; and coal transfer and loading systems. (Subpart Y)
- w. Ferroalloy production. Any of the following: electric submerged arc furnaces which produce silicon metal, ferrosilicon, calcium silicon, silicomanganese zirconium, ferrochrome silicon, silvery iron, high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, ferromanganese silicon, or calcium carbide; and dust-handling equipment. (Subpart Z)
- x. Kraft pulp mills. Any of the following in a kraft pulp mill: digester system; brown stock washer system; multiple effect evaporator system; black liquor oxidation system; recovery furnace; smelt dissolving tank; lime kiln; and condensate stripper system. In pulp mills where kraft pulping is combined with neutral sulfite semichemical pulping, the provisions of the standard of performance are applicable when any portion of the material charged to an affected facility is produced by the kraft pulping operation. (Subpart BB)
- y. Lime manufacturing plants. A rotary lime kiln or a lime hydrator used in the manufacture of lime at other than a kraft pulp mill. (Subpart HH)

- z. Electric utility steam generating units. An electric utility steam generating unit that is capable of combusting more than 250 million Btus per hour (73 megawatts) heat input of fossil fuel for which construction or modification or reconstruction is commenced after September 18, 1978, or an electric utility combined cycle gas turbine that is capable of combusting more than 250 million Btus per hour (73 megawatts) heat input of fossil fuel in the steam generator. (Subpart Da)
- aa. Stationary gas turbines. Any simple cycle gas turbine, regenerative cycle gas turbine or any gas turbine portion of a combined cycle steam/electric generating system that is not self-propelled. It may, however, be mounted on a vehicle for portability. (Subpart GG)
- bb. Petroleum storage vessels. Unless exempted, any storage vessel for petroleum liquids for which the construction, reconstruction, or modification commenced after June 11, 1973, and prior to May 19, 1978, having a storage capacity greater than 151,412 liters (40,000 gallons). (Subpart K)
- cc. Petroleum storage vessels. Unless exempted, any storage vessel for petroleum liquids for which the construction, reconstruction, or modification commenced after May 18, 1978, and prior to July 23, 1984, having a storage capacity greater than 151,416 liters (40,000 gallons). (Subpart Ka)
 - dd. Glass manufacturing plants. Any glass melting furnace. (Subpart CC)
- ee. Automobile and light-duty truck surface coating operations at assembly plants. Any of the following in an automobile or light-duty truck assembly plant: prime coat operations, guide coat operations, and topcoat operations. (Subpart MM)
- ff. Ammonium sulfate manufacture. Any of the following in the ammonium sulfate industry: ammonium sulfate dryers in the caprolactam by-product, synthetic, and coke oven by-product sectors of the industry. (Subpart PP)
- gg. Surface coating of metal furniture. Any metal furniture surface coating operation in which organic coatings are applied. (Subpart EE)
- hh. Lead-acid battery manufacturing plants. Any lead-acid battery manufacturing plant which uses any of the following: grid casting, paste mixing, three-process operation, lead oxide manufacturing, lead reclamation, other lead-emitting operations. (Subpart KK)
- ii. Phosphate rock plants. Any phosphate rock plant which has a maximum plant production capacity greater than four tons per hour including the following: dryers, calciners, grinders, and ground rock handling and storage facilities, except those facilities producing or preparing phosphate rock solely for consumption in elemental phosphorus production. (Subpart NN)
- *jj.* Graphic arts industry. Publication rotogravure printing. Any publication rotogravure printing press except proof presses. (Subpart QQ)
- *kk.* Industrial surface coating large appliances. Any surface coating operation in a large appliance surface coating line. (Subpart SS)
- *ll. Metal coil surface coating.* Any of the following at a metal coil surface coating operation: prime coat operation, finish coat operation, and each prime and finish coat operation combined when the finish coat is applied wet-on-wet over the prime coat and both coatings are cured simultaneously. (Subpart TT)
- mm. Asphalt processing and asphalt roofing manufacturing. Any saturator, mineral handling and storage facility at asphalt roofing plants; and any asphalt storage tank and any blowing still at asphalt processing plants, petroleum refineries, and asphalt roofing plants. (Subpart UU)
- nn. Equipment leaks of VOC in the synthetic organic chemicals manufacturing industry. Any pumps, compressors, pressure relief devices, sampling systems, valves and lines which handle volatile organic compounds (VOC). (Subpart VV)

- oo. Beverage can surface coating. Any beverage can surface coating lines for two-piece steel or aluminum containers in which soft drinks or beer are sold. (Subpart WW)
- pp. Bulk gasoline terminals. The total of all loading racks at bulk gasoline terminals which deliver liquid product into gasoline tank trucks. (Subpart XX)
- qq. Pressure sensitive tape and label surface coating operations. Any coating line used in the tape manufacture of pressure sensitive tape and label materials. (Subpart RR)
- rr. Metallic mineral processing plants. Any ore processing and handling equipment. (Subpart LL)
- ss. Synthetic fiber production facilities. Any solvent-spun synthetic fiber process that produces more than 500 megagrams of fiber per year. (Subpart HHH)
- tt. Equipment leaks of VOC in petroleum refineries. A compressor and all equipment (defined in 40 CFR, Part 60.591) within a process unit for which the construction, reconstruction, or modification commenced after January 4, 1983. (Subpart GGG)
- *uu.* Flexible vinyl and urethane coating and printing. Each rotogravure printing line used to print or coat flexible vinyl or urethane products. (Subpart FFF)
- vv. Petroleum dry cleaners. Petroleum dry-cleaning plant with a total manufacturer's rated dryer capacity equal to or greater than 38 kilograms (84 pounds): petroleum solvent dry-cleaning dryers, washers, filters, stills, and settling tanks. (Subpart JJJ)
- ww. Electric arc furnaces and argon-oxygen decarburization vessels constructed after August 17, 1983. Steel plants that produce carbon, alloy, or specialty steels: electric arc furnaces, argon-oxygen decarburization vessels, and dust-handling systems. (Subpart AAa)
- xx. Wool fiberglass insulation manufacturing plants. Rotary spin wool fiberglass manufacturing line. (Subpart PPP)
- yy. Iron and steel plants. Secondary emissions from basic oxygen process steelmaking facilities for which construction, reconstruction, or modification commenced after January 20, 1983. (Subpart Na)
- zz. Equipment leaks of VOC from on-shore natural gas processing plants. A compressor and all equipment defined in 40 CFR, Part 60.631, unless exempted, for which construction, reconstruction, or modification commenced after January 20, 1984. (Subpart KKK)
- aaa. On-shore natural gas processing: SO₂ emissions. Unless exempted, each sweetening unit and each sweetening unit followed by a sulfur recovery unit for which construction, reconstruction, or modification commenced after January 20, 1984. (Subpart LLL)
- bbb. Nonmetallic mineral processing plants. Unless exempted, each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or rail car loading station in fixed or portable nonmetallic mineral processing plants for which construction, reconstruction, or modification commenced after August 31, 1983. (Subpart OOO)
- ccc. Industrial-commercial-institutional steam generating units. Unless exempted, each steam generating unit for which construction, reconstruction, or modification commenced after June 19, 1984, and which has a heat input capacity of more than 100 million Btu/hour. (Subpart Db)
- ddd. Volatile organic liquid storage vessels. Unless exempted, volatile organic liquid storage vessels for which construction, reconstruction, or modification commenced after July 23, 1984. (Subpart Kb)

- eee. Rubber tire manufacturing plants. Unless exempted, each undertread cementing operation, each sidewall cementing operation, each tread end cementing operation, each bead cementing operation, each green tire spraying operation, each Michelin-A operation, each Michelin-B operation, and each Michelin-C automatic operation that commences construction or modification after January 20, 1983. (Subpart BBB)
- fff. Industrial surface coating: surface coating of plastic parts for business machines. Each spray booth in which plastic parts for use in the manufacture of business machines receive prime coats, color coats, texture coats, or touch-up coats for which construction, modification, or reconstruction begins after January 8, 1986. (Subpart TTT)
- ggg. VOC emissions from petroleum refinery wastewater systems. Each individual drain system, each oil-water separator, and each aggregate facility for which construction, modification or reconstruction is commenced after May 4, 1987. (Subpart QQQ)
- *hhh. Magnetic tape coating facilities.* Unless exempted, each coating operation and each piece of coating mix preparation equipment for which construction, modification, or reconstruction is commenced after January 22, 1986. (Subpart SSS)
- iii. Polymeric coating of supporting substrates. Unless exempted, each coating operation and any on-site coating mix preparation equipment used to prepare coatings for the polymeric coating of supporting substrates for which construction, modification, or reconstruction begins after April 30, 1987. (Subpart VVV)
- jjj. VOC emissions from synthetic organic chemical manufacturing industry air oxidation unit processes. Unless exempted, any air oxidation reactor, air oxidation reactor and recovery system or combination of two or more reactors and the common recovery system used in the production of any of the chemicals listed in 40 CFR §60.617 for which construction, modification or reconstruction commenced after October 21, 1983. (Subpart III)
- kkk. VOC emissions from synthetic organic chemical manufacturing industry distillation operations. Unless exempted, any distillation unit, distillation unit and recovery system or combination of two or more distillation units and the common recovery system used in the production of any of the chemicals listed in 40 CFR \$60.667 for which construction, modification or reconstruction commenced after December 30, 1983. (Subpart NNN)
- *lll.* Small industrial-commercial-institutional steam generating units. Each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989, and that has a maximum design heat input capacity of 100 million Btu per hour or less, but greater than or equal to 10 million Btu per hour. (Subpart Dc)
- mmm. VOC emissions from the polymer manufacturing industry. Each of the following process sections in the manufacture of polypropylene and polyethylene—raw materials preparation, polymerization reaction, material recovery, product finishing, and product storage; each material recovery section of polystyrene manufacturing using a continuous process; each polymerization reaction section of poly(ethylene terephthalate) manufacturing using a continuous process; each material recovery section of poly(ethylene terephthalate) manufacturing using a continuous process that uses dimethyl terephthalate; each raw material section of poly(ethylene terephthalate) manufacturing using a continuous process that uses terephthalic acid; and each group of fugitive emissions equipment within any process unit in the manufacturing of polypropylene, polyethylene, or polystyrene (including expandable polystyrene). The applicability date for construction, modification or reconstruction for polystyrene and poly(ethylene terephthalate) affected facilities and some polypropylene and polyethylene affected facilities is September 30, 1987. For the other polypropylene and polyethylene affected facilities the applicability date for these regulations is January 10, 1989. (Subpart DDD)

nnn. Municipal waste combustors. Unless exempted, a municipal waste combustor with a capacity greater than 250 tons per day of municipal solid waste or refuse derived fuel for which construction, modification, or reconstruction is commenced after December 20, 1989. (Subpart Ea)

ooo. Grain elevators. A grain terminal elevator or any grain storage elevator except as provided under 40 CFR 60.304(b), August 31, 1993. A grain terminal elevator means any grain elevator which has a permanent storage capacity of more than 2.5 million U.S. bushels except those located at animal food manufacturers, pet food manufacturers, cereal manufacturers, breweries, and livestock feedlots. A grain storage elevator means any grain elevator located at any wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant which has a permanent grain storage capacity of 1 million bushels. Any construction, modification, or reconstruction after August 3, 1978, is subject to this paragraph. (Subpart DD)

ppp. Mineral processing plants. Each calciner and dryer at a mineral processing plant unless excluded for which construction, modification, or reconstruction is commenced after April 23, 1986. (Subpart UUU)

qqq. VOC emissions from synthetic organic chemical manufacturing industry reactor processes. Unless exempted, each affected facility that is part of a process unit that produces any of the chemicals listed in 40 CFR §60.707 as a product, coproduct, by-product, or intermediate for which construction, modification, or reconstruction commenced after June 29, 1990. Affected facility is each reactor process not discharging its vent stream into a recovery system, each combination of a reactor process and the recovery system into which its vent stream is discharged, or each combination of two or more reactor processes and the common recovery system into which their vent streams are discharged. (Subpart RRR)

- rrr. Municipal solid waste landfills, as defined by 40 CFR 60.751. Each municipal solid waste landfill that commenced construction, reconstruction or modification or began accepting waste on or after May 30, 1991, must comply. (Subpart WWW)
- **23.1(3)** *Emission standards for hazardous air pollutants.* The federal standards for emissions of hazardous air pollutants, 40 Code of Federal Regulations Part 61 as amended through October 14, 1997, are adopted by reference, except 40 CFR §61.20 to §61.26, §61.90 to §61.97, §61.100 to §61.108, §61.120 to §61.127, §61.190 to §61.193, §61.200 to §61.205, §61.220 to §61.225, and §61.250 to §61.256, and shall apply to the following affected pollutants and facilities and activities listed below. The corresponding 40 CFR Part 61 subpart designation is in parentheses. Reference test methods (Appendix B), compliance status information requirements (Appendix A), quality assurance procedures (Appendix C) and the general provisions (Subpart A) of Part 61 also apply to the affected activities or facilities.
- a. Asbestos. Any of the following involves asbestos emissions: asbestos mills, surfacing of roadways, manufacturing operations, fabricating, insulating, waste disposal, spraying applications and demolition and renovation operations. (Subpart M)
- b. Beryllium. Any of the following stationary sources: beryllium extraction plants, ceramic plants, foundries, incinerators, and propellant plants which process beryllium ore, beryllium oxide, beryllium alloys, or beryllium-containing waste; and machine shops which process beryllium, beryllium oxides, or any alloy when such alloy contains more than 5 percent beryllium by weight. (Subpart C)
 - c. Beryllium rocket motor firing. Rocket motor test sites. (Subpart D)
- d. Mercury. Any of the following involving mercury emissions: mercury ore processing facilities, mercury cell chlor-alkali plants, sludge incineration plants, sludge drying plants, and a combination of sludge incineration plants and sludge drying plants. (Subpart E)

- e. Vinyl chloride. Ethylene dichloride purification and the oxychlorination reactor in ethylene dichloride plants. Vinyl chloride formation and purification in vinyl chloride plants. Any of the following involving polyvinyl chloride plants: reactor; stripper; mixing, weighing, and holding containers; monomer recovery system; sources following the stripper(s). Any of the following involving ethylene dichloride, vinyl chloride, and polyvinyl chloride plants: relief valve discharge; fugitive emission sources. (Subpart F)
- f. Equipment leaks of benzene (fugitive emission sources). Any pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, flanges and other connectors, product accumulator vessels, and control devices or systems which handle benzene. (Subpart J)
- g. Equipment leaks of volatile hazardous air pollutants (fugitive emission sources). Any pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, flanges and other connectors, product accumulator vessels, and control devices or systems which handle volatile hazardous air pollutants. (Subpart V)
- h. Inorganic arsenic emissions from arsenic trioxide and metallic arsenic production facilities. Each metallic arsenic production plant and each arsenic trioxide plant that processes low-grade arsenic bearing materials by a roasting condensation process. (Subpart P)
- i. Inorganic arsenic emissions from glass manufacturing plants. Each glass melting furnace (except pot furnaces) that uses commercial arsenic as a raw material. (Subpart N)
- j. Inorganic arsenic emissions from primary copper smelters. Each copper converter at any new or existing primary copper smelter except as noted in 40 CFR §61.172(a). (Subpart O)
- k. Benzene emissions from coke by-product recovery plants. Each of the following sources at furnace and foundry coke by-product recovery plants: tar decanters, tar storage tanks, tar-intercepting sumps, flushing-liquor circulation tanks, light-oil sumps, light-oil condensers, light-oil decanters, wash-oil decanters, wash-oil circulation tanks, naphthalene processing, final coolers, final-cooler cooling towers, and the following equipment that is intended to operate in benzene service: pumps, valves, exhausters, pressure relief devices, sampling connection systems, open-ended valves or lines, flanges or other connectors, and control devices or systems required by 40 CFR §61.135.

The provisions of this subpart also apply to benzene storage tanks, BTX storage tanks, light-oil storage tanks, and excess ammonia-liquor storage tanks at furnace coke by-product recovery plants. (Subpart L)

- l. Benzene emissions from benzene storage vessels. Unless exempted, each storage vessel that is storing benzene having a specific gravity within the range of specific gravities specified in ASTM D 836-84 for Industrial Grade Benzene, ASTM D 835-85 for Refined Benzene-485, ASTM D 2359-85a for Refined Benzene-535, and ASTM D 4734-87 for Refined Benzene-545. These specifications are incorporated by reference as specified in 40 CFR §61.18. (Subpart Y)
- m. Benzene emissions from benzene transfer operations. Unless exempted, the total of all loading racks at which benzene is loaded into tank trucks, rail cars, or marine vessels at each benzene production facility and each bulk terminal. (Subpart BB)
- n. Benzene waste operations. Unless exempted, the provisions of this subrule apply to owners and operators of chemical manufacturing plants, coke by-product recovery plants, petroleum refineries, and facilities at which waste management units are used to treat, store, or dispose of waste generated by any of these listed facilities. (Subpart FF)

- **23.1(4)** Emission standards for hazardous air pollutants for source categories. The federal standards for emissions of hazardous air pollutants for source categories, 40 Code of Federal Regulations Part 63 as amended through August 11, 1997, are adopted by reference, except 40 CFR §§ 63.12, 63.14, 63.15, 63.40(a), 63.42(a), (b), 63.43(c), (f)-(m), 63.560 (b), (e) (2), (3), and 63.562 (c), (d), and shall apply to the following affected facilities. The corresponding 40 CFR Part 63 Subpart designation is in parentheses. 40 CFR Part 63 Subpart B incorporates the requirements of Clean Air Act Sections 112(g) and 112(j) and does not adopt standards for a specific affected facility. Test methods (Appendix A), sources defined for early reduction provisions (Appendix B), and determination of the fraction biodegraded (F_{bio}) in the biological treatment unit (Appendix C) of Part 63 also apply to the affected activities or facilities. For the purpose of this subrule "Hazardous air pollutant" has the same meaning found in 567—22.100(455B). For the purposes of this subrule a "major source" means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless a lesser quantity is established, or in the case of radionuclides, where different criteria are employed. For the purposes of this subrule an "area source" means any stationary source of hazardous air pollutants that is not a major stationary source as defined in this paragraph. Paragraph 23.1(4) "a," general provisions (Subpart A) of Part 63, shall apply to owners or operators who are subject to subsequent subparts of 40 CFR 63 (except when otherwise specified in a particular subpart or in a relevant standard) as adopted by reference below.
- a. General provisions. General provisions apply to owners or operators of affected activities or facilities except when otherwise specified in a particular subpart or in a relevant standard. (Subpart A)
- b. Requirements for control technology determinations for major sources in accordance with Clean Air Act Sections 112(g) and 112(j). (Subpart B)
- (1) Section 112(g) requirements. For the purposes of this subparagraph, the definitions shall be the same as the definitions found in 40 CFR 63.2 and 40 CFR 63.41 as amended through December 27, 1996. The owner or operator of a new or reconstructed major source of hazardous air pollutants must apply maximum achievable control technology (MACT) for new sources to the new or reconstructed major source. If the major source in question has been specifically regulated or exempted from regulation under a standard issued pursuant to Section 112(d), Section 112(h), or Section 112(j) of the Clean Air Act and incorporated in another subpart of 40 CFR Part 63, excluded in 40 CFR 63.40(e) and (f), or the owner or operator of such major source has received all necessary air quality permits for such construction or reconstruction project before June 29, 1998, then the major source in question is not subject to the requirements of this subparagraph. The owner or operator of an affected source shall apply for a construction permit as required in 567—paragraph 22.1(1)"b." The construction permit application shall contain an application for a case-by-case MACT determination for the major source.
- (2) Section 112(j) requirements. The owner or operator of a new or existing major source of hazardous air pollutants which includes one or more stationary sources included in a source category or subcategory for which the U.S. Environmental Protection Agency has failed to promulgate an emission standard within 18 months of the deadline established under 112(d) must submit an application for a Title V permit or an application for a significant permit modification or for an administrative amendment, whichever is applicable. The application must be made in accordance with procedures established under Title V, by the Section 112(j) deadline. In addition, the owner or operator of a new emission unit may submit an application for a Notice of MACT Approval before construction.
 - c. Reserved.
- d. Compliance extensions for early reductions of hazardous air pollutants. Compliance extensions for early reductions of hazardous air pollutants are available to certain owners or operators of an existing source who wish to obtain a compliance extension from a standard issued under Section 112(d) of the Act. (Subpart D)
 - e. Reserved.

- f. Emission standards for organic hazardous air pollutants from the synthetic chemical manufacturing industry. These standards apply to chemical manufacturing process units that are part of a major source. These standards include applicability provisions, definitions and other general provisions that are applicable to Subparts F, G, and H of 40 CFR 63. (Subpart F)
- g. Emission standards for organic hazardous air pollutants from the synthetic organic chemical manufacturing industry for process vents, storage vessels, transfer operations, and wastewater. These standards apply to all process vents, storage vessels, transfer racks, and wastewater streams within a source subject to Subpart F of 40 CFR 63. (Subpart G)
- h. Emission standards for organic hazardous air pollutants for equipment leaks. These standards apply to emissions of designated organic hazardous air pollutants from specified processes that are located at a plant site that is a major source. Affected equipment includes: pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems and control devices or systems required by this subpart that are intended to operate in organic hazardous air pollutant service 300 hours or more during the calendar year within a source subject to the provisions of a specific subpart in 40 CFR Part 63. In organic hazardous air pollutant or in organic HAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAPs as determined according to the provisions of 40 CFR Part 63.161. The provisions of 40 CFR Part 63.161 also specify how to determine that a piece of equipment is not in organic HAP service. (Subpart H)
- i. Emission standards for organic hazardous air pollutants for certain processes subject to negotiated regulation for equipment leaks. These standards apply to emissions of designated organic hazardous air pollutants from specified processes (defined in 40 CFR 63.190) that are located at a plant site that is a major source. Subject equipment includes pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems at certain source categories. These standards establish the applicability of Subpart H for sources that are not classified as synthetic organic chemical manufacturing industries. (Subpart I)
 - *j.* Reserved.
 - k. Reserved.
- Emission standards for coke oven batteries. These standards apply to existing coke oven batteries, including by-product and nonrecovery coke oven batteries and to new coke oven batteries, or as defined in the subpart. (Subpart L)
- m. Perchloroethylene air emission standards for dry cleaning facilities. These standards apply to the owner or operator of each dry cleaning facility that uses perchloroethylene. New and existing major source dry cleaning facilities are required to control emissions to the level of the maximum achievable control technology (MACT). New and existing area source dry cleaning facilities are required to control emissions to the level achieved by generally available control technologies (GACT) or management practices. All coin-operated dry cleaning machines are exempt from the requirements of this subpart. (Subpart M)
- n. Emission standards for chromium emissions from hard and decorative chromium electroplating and chromium anodizing tanks. These standards limit the discharge of chromium compound air emissions from existing and new hard chromium electroplating, decorative chromium electroplating, and chromium anodizing tanks at major and area sources. (Subpart N)
- o. Emission standards for hazardous air pollutants for ethylene oxide commercial sterilization and fumigation operations. New and existing major source ethylene oxide commercial sterilization and fumigation operations are required to control emissions to the level of the maximum achievable control technology (MACT). New and existing area source ethylene oxide commercial sterilization and fumigation operations are required to control emissions to the level achieved by generally available control technologies (GACT). Certain sources are exempt as described in 40 CFR 63.360. (Subpart O)

- p. Emission standards for primary aluminum reduction plants. These standards apply to each new or existing potline, paste production plant, or anode bake furnace associated with a primary aluminum reduction plant, and for each new pitch storage tank associated with a primary aluminum production plant, except existing furnaces not located on the same site as the primary aluminum reduction plant. (Subpart LL)
- q. Emission standards for hazardous air pollutants for industrial process cooling towers. These standards apply to all new and existing industrial process cooling towers that are operated with chromium-based water treatment chemicals on or after September 8, 1994, and are either major sources or are integral parts of facilities that are major sources. (Subpart Q)
- r. Emission standards for hazardous air pollutants for sources categories: gasoline distribution: (Stage 1). These standards apply to all existing and new bulk gasoline terminals and pipeline breakout stations that are major sources of hazardous air pollutants or are located at plant sites that are major sources. Bulk gasoline terminals and pipeline breakout stations located within a contiguous area or under common control with a refinery complying with 40 CFR Subpart CC are not subject to 40 CFR Subpart R standards. (Subpart R)
 - s. Reserved.
- t. Emission standards for hazardous air pollutants: halogenated solvent cleaning. These standards require batch vapor solvent cleaning machines and in-line solvent cleaning machines to meet emission standards reflecting the application of maximum achievable control technology (MACT) for major and area sources; area source batch cold cleaning machines are required to achieve generally available control technology (GACT). The subpart regulates the emissions of the following halogenated hazardous air pollutant solvents: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, and chloroform. (Subpart T)
- u. Emission standards for hazardous air pollutants: Group I polymers and resins. Applicable to existing and new major sources that emit organic HAP during the manufacture of one or more elastomers including but not limited to producers of butyl rubber, halobutyl rubber, epichlorohydrin elastomers, ethylene propylene rubber, Hypalon™, neoprene, nitrile butadiene rubber, nitrile butadiene latex, polybutadiene rubber/styrene butadiene rubber by solution, polysulfide rubber, styrene butadiene rubber by emulsion, and styrene butadiene latex. MACT is required for major sources. (Subpart U)
 - v. Reserved
- w. Emission standards for hazardous air pollutants for epoxy resins production and nonnylon polyamides production. These standards apply to all existing, new and reconstructed manufacturers of basic liquid epoxy resins and manufacturers of wet strength resins that are located at a plant site that is a major source. (Subpart W)
- x. National emission standards for hazardous air pollutants from secondary lead smelting. These standards apply to all existing and new secondary lead smelters sources which use blast, reverberatory, rotary, or electric smelting furnaces for lead recovery of scrap lead that are located at major or area sources. The provisions apply to smelting furnaces, refining kettles, agglomerating furnaces, dryers, process fugitive sources, and fugitive dust. Excluded from the rule are primary lead smelters, lead refiners, and lead remelters. Hazardous air pollutants regulated under this standard include but are not limited to lead compounds, arsenic compounds, and 1,3-butadiene. (Subpart X)
- y. Emission standards for marine tank vessel loading operations. This standard requires existing and new major sources to control emissions using maximum achievable control technology (MACT) to control hazardous air pollutants (HAP). (Subpart Y)
 - z. to ab. Reserved.
- ac. National emission standards for hazardous air pollutants: petroleum refineries. These standards apply to petroleum refining process units and colocated emission points at new and existing major sources. Affected sources include process vents, equipment leaks, storage vessels, transfer operations, and wastewater streams. The standards also apply to marine tank vessel and gasoline loading racks. Excluded from the standard are catalyst regeneration from catalytic cracking units and catalytic reforming units, and vents from sulfur recovery units. Compliance with the standard includes emission control and prevention. (Subpart CC)

- ad. Emission standards for hazardous air pollutants for off-site waste and recovery operations. This rule applies to major sources of HAP emissions which receive certain wastes, used oil, and used solvents from off-site locations for storage, treatment, recovery, or disposal at the facility. Maximum achievable control technology (MACT) is required to reduce HAP emissions from tanks, surface impoundments, containers, oil-water separators, individual drain systems and other material conveyance systems, process vents, and equipment leaks. Regulated entities include but are not limited to businesses that operate any of the following: hazardous waste treatment, storage, and disposal facilities; Resource Conservation and Recovery Act (RCRA) exempt hazardous wastewater treatment facilities other than publicly owned treatment works; used solvent recovery plants; RCRA exempt hazardous waste recycling operations; used oil re-refineries. The regulations also apply to federal agency facilities that operate any of the waste management or recovery operations. (Subpart DD)
- ae. Emission standards for magnetic tape manufacturing operations. These standards apply to major sources performing magnetic tape manufacturing operations. (Subpart EE)
 - af. Reserved.
- ag. National emission standards for hazardous air pollutants for source categories: aerospace manufacturing and rework facilities. These standards apply to major sources involved in the manufacture, repair, or rework of aerospace components and assemblies, including but not limited to airplanes, helicopters, missiles, and rockets for civil, commercial, or military purposes. Hazardous air pollutants regulated under this standard include chromium, cadmium, methylene chloride, toluene, xylene, methyl ethyl ketone, ethylene glycol, and glycol ethers. (Subpart GG)
 - ah. Reserved.
- ai. Emission standards for hazardous air pollutants for shipbuilding and ship repair (surface coating) operations. Requires existing and new major sources to control hazardous air pollutant (HAP) emissions using the maximum achievable control technology (MACT). (Subpart II)
- aj. Emission standards for hazardous air pollutants for hazardous air pollutant (HAP) emissions from wood furniture manufacturing operations. These standards apply to each facility that is engaged, either in part or in whole, in the manufacture of wood furniture or wood furniture components and that is located at a plant site that is a major source. (Subpart JJ)
- ak. Emission standards for hazardous air pollutants for the printing and publishing industry. Existing and new major sources are required to control hazardous air pollutants (HAP) using the maximum achievable control technology (MACT). Affected units are publication rotogravure, product and packaging rotogravure, and wide-web flexographic printing. (Subpart KK)
 - al. to bi. Reserved.
- bj. Emission standards for hazardous air pollutants: Group IV polymers and resins. Applicable to existing and new major sources that emit organic HAP during the manufacture of the following polymers and resins: acrylonitrile butadiene styrene resin (ABS), styrene acrylonitrile resin (SAN), methyl methacrylate acrylonitrile butadiene styrene resin (MABS), methyl methacrylate butadiene styrene resin (MBS), polystyrene resin, poly (ethylene terephthalate) resin (PET), and nitrile resin. MACT is required for major sources. (Subpart JJJ)

- **23.1(5)** *Emission guidelines*. The emission guidelines and compliance times for existing sources, as defined in 40 Code of Federal Regulations Part 60 as amended through June 12, 1997, shall apply to the following affected facilities. The corresponding 40 CFR Part 60 subpart designation is in parentheses. The control of the designated pollutants will be in accordance with federal standards established in Sections 111 and 129 of the Act and 40 CFR Part 60, Subpart B (Adoption and Submittal of State Plans for Designated Facilities), and the applicable subpart(s) for the existing source. Reference test methods (Appendix A), performance specifications (Appendix B), determination of emission rate change (Appendix C), quality assurance procedures (Appendix F) and the general provisions (Subpart A) of 40 CFR Part 60 also apply to the affected facilities.
- a. Emission guidelines for municipal solid waste landfills (Subpart Cc). Emission guidelines and compliance times for the control of certain designated pollutants from designated municipal solid waste landfills shall be in accordance with federal standards established in Subparts Cc (Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills) and WWW (Standards of Performance for Municipal Solid Waste Landfills) of 40 CFR Part 60.
- (1) Definitions. For the purpose of 23.1(5) "a," the definitions have the same meaning given to them in the Act and 40 CFR Part 60, Subparts A (General Provisions), B, and WWW, if not defined in this subparagraph.

"Municipal solid waste landfill" or "MSW landfill" means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. An MSW landfill may also receive other types of RCRA Subtitle D wastes such as commercial solid waste, nonhazardous sludge, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned. An MSW landfill may be a new MSW landfill, an existing MSW landfill or a lateral expansion.

- (2) Designated facilities.
- 1. The designated facility to which the emission guidelines apply is each existing MSW landfill for which construction, reconstruction or modification was commenced before May 30, 1991.
- 2. Physical or operational changes made to an existing MSW landfill solely to comply with an emission guideline are not considered a modification or reconstruction and would not subject an existing MSW landfill to the requirements of 40 CFR Part 60, Subpart WWW (40 CFR 60.750).
 - (3) Emission guidelines for municipal solid waste landfill emissions.
- 1. MSW landfill emissions at each MSW landfill meeting the conditions below shall be controlled.

The landfill has accepted waste at any time since November 8, 1987, or has additional design capacity available for future waste deposition.

The landfill has a design capacity greater than or equal to 2.5 million megagrams or 2.5 million cubic meters, which must be provided to the administrator in a design capacity report by November 18, 1997. The landfill may calculate design capacity in either megagrams or cubic meters for comparison with the exemption values. Any density conversions shall be documented and submitted with the report.

The landfill has a nonmethane organic compound (NMOC) emission rate of 50 megagrams per year or more. If the MSW landfill's design capacity exceeds the established thresholds in 23.1(5)"a"(3)"1," the NMOC emission rate calculations must be provided with the design capacity report.

2. The installation of a collection and control system shall meet the conditions provided in 40 CFR 60.752(b)(2)(ii) at each MSW landfill meeting the conditions in 23.1(5) "a"(3)"1."

 MSW landfill emissions collected through the use of control devices must meet the following requirements, except as provided in 40 CFR 60.24 after approval by the Director and U.S. Environmental Protection Agency.

An open flare designed and operated in accordance with the parameters established in 40 CFR 60.18; a control system designed and operated to reduce NMOC by 98 weight percent; or an enclosed combustor designed and operated to reduce the outlet NMOC concentration to 20 parts per million as hexane by volume, dry basis at 3 percent oxygen, or less.

- (4) Test methods and procedures. The following must be used:
- 1. The calculation of the landfill NMOC emission rate listed in 40 CFR 60.754, as applicable, to determine whether the landfill meets the condition in 23.1(5) "a"(3)"3";
 - 2. The operational standards in 40 CFR 60.753;
 - 3. The compliance provisions in 40 CFR 60.755; and
 - 4. The monitoring provisions in 40 CFR 60.756.
- (5) Reporting and record-keeping requirements. The record-keeping and reporting provisions listed in 40 CFR 60.757 and 60.758, as applicable, except as provided under 40 CFR 60.24 after approval by the Director and U.S. Environmental Protection Agency, shall be used.
 - (6) Compliance times.
- 1. Except as provided for under 23.1(5) "a"(6)"2," planning, awarding of contracts, and installation of MSW landfill air emission collection and control equipment capable of meeting the emission guidelines established under 23.1(5)"a"(3) shall be accomplished by February 20, 2000.
- 2. For each existing MSW landfill meeting the conditions in 23.1(5) "a"(3)"1" whose NMOC emission rate is less than 50 megagrams per year on August 20, 1997, installation of collection and control systems capable of meeting emission guidelines in 23.1(5) "a"(3) shall be accomplished within 30 months of the date when the condition in 23.1(5) "a"(3)"1" is met (i.e., the date of the first annual nonmethane organic compounds emission rate which equals or exceeds 50 megagrams per year).
 - b. Reserved.
- **23.1(6)** Calculation of emission limitations based upon stack height. This rule sets limits for the maximum stack height credit to be used in ambient air quality modeling for the purpose of setting an emission limitation and calculating the air quality impact of a source. The rule does not limit the actual physical stack height for any source.

For the purpose of this subrule, definitions of "stack," "a stack in existence," "dispersion technique," "nearby" and "excessive concentration" as set forth in 40 CFR §§51.100(ff) through (hh), (jj) and (kk) as amended through June 14, 1996, are adopted by reference.

- a. "Good engineering practice (GEP) stack height" means the greater of:
- (1) Sixty-five meters, measured from the ground level elevation at the base of the stack; or
- (2) For stacks in existence on January 12, 1979, and for which the owner and operator had obtained all applicable permits or approvals required under 567—Chapter 22 and 40 CFR §52.21 as amended through March 12, 1996,

$$Hg = 2.5H$$

provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation;

For all other stacks,

$$Hg = H + 1.5L$$

where:

Hg = good engineering practice stack height, measured from the ground level elevation at the base of the stack,

H = height of nearby structure(s) measured from the ground level elevation at the base of the stack,

- L = lesser dimension, height or projected width, of nearby structure(s), provided that the department may require the use of a field study or fluid model to verify GEP stack height for the source; or
- (3) The height demonstrated by a fluid model or a field study approved by the department, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures or nearby terrain features. Public notification of the availability of such study and opportunity for public hearing are required prior to approval by the department.
- b. The degree of emission limitation required for control of any air contaminant under this chapter shall not be affected in any manner by:
 - (1) The consideration of that portion of a stack which exceeds GEP stack height; or
- (2) Varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant; or
- (3) Increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, stack parameters, or combined exhaust gases from several existing stacks into one stack; or other selective handling of exhaust gas streams so as to increase gas plume rise.

This rule is intended to implement Iowa Code section 455B.133.

567—23.2(455B) Open burning.

- **23.2(1)** *Prohibition.* No person shall allow, cause or permit open burning of combustible materials, except as provided in 23.2(2) and 23.2(3).
- **23.2(2)** *Variances from rules.* Any person wishing to conduct open burning of materials not exempted in 23.2(3) may make application for a variance as specified in 567—subrule 21.2(1).
- **23.2(3)** *Exemptions.* The following shall be permitted unless prohibited by local ordinances or regulations.
- a. Disaster rubbish. The open burning of rubbish, including landscape waste, for the duration of the community disaster period in cases where an officially declared emergency condition exists.

b. Trees and tree trimmings. The open burning of trees and tree trimmings not originated on the premises provided that the burning site is operated by a local governmental entity, the burning site is fenced and access is controlled, burning is conducted on a regularly scheduled basis and is supervised at all times, burning is conducted only when weather conditions are favorable with respect to surrounding property, and the burning site is limited to areas at least one-quarter mile from any inhabited building unless a written waiver in the form of an affidavit is submitted by the owner of the building to the department and to the local governmental entity prior to the first instance of open burning at the site which occurs after November 13, 1996. The written waiver shall become effective only upon recording in the office of the recorder of deeds of the county in which the inhabited building is located. However, when the open burning of trees and tree trimmings causes air pollution as defined in Iowa Code section 455B.131(3), the department may take appropriate action to secure relocation of the burning operation. Rubber tires shall not be used to ignite trees and tree trimmings.

This exemption shall not apply within the area classified as the PM10 (inhalable) particulate Group II area of Mason City. This Group II area is described as follows: the area in Cerro Gordo County, Iowa, in Lincoln Township including Sections 13, 24 and 25; in Lime Creek Township including Sections 18, 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, 34 and 35; in Mason Township the W $\frac{1}{2}$ of Section 1, Sections 2, 3, 4, 5, 8, 9, the N $\frac{1}{2}$ of Section 11, the NW $\frac{1}{4}$ of Section 12, the N $\frac{1}{2}$ of Section 16, the N $\frac{1}{2}$ of Section 17 and the portions of Sections 10 and 15 north and west of the line from U.S. Highway 18 south on Kentucky Avenue to 9th Street SE; thence west on 9th Street SE to the Minneapolis and St. Louis railroad tracks; thence south on Minneapolis and St. Louis railroad tracks to 19th Street SE; thence west on 19th Street SE to the section line between Sections 15 and 16.

- c. Flare stacks. The open burning or flaring of waste gases, providing such open burning or flaring is conducted in compliance with 23.3(2)"d" and 23.3(3)"e."
- d. Landscape waste. The disposal by open burning of landscape waste originating on the premises. However, the burning of landscape waste produced in clearing, grubbing and construction operations shall be limited to areas located at least one-fourth mile from any building inhabited by other than the landowner or tenant conducting the open burning. Rubber tires shall not be used to ignite landscape waste.
- e. Recreational fires. Open fires for cooking, heating, recreation and ceremonies, provided they comply with 23.3(2)"d." Burning rubber tires is prohibited from this activity.
- *f.* Residential waste. Backyard burning of residential waste at dwellings of four-family units or less. The adoption of more restrictive ordinances or regulations of a governing body of the political subdivision, relating to control of backyard burning, shall not be precluded by these rules.
- g. Training fires. Fires set for the purpose of bona fide training of public or industrial employees in firefighting methods, provided that written notification is postmarked or delivered to the director at least ten working days before such action commences. Notification shall be made in accordance with 40 CFR Section 61.145, "Standard for demolition and renovation," of the asbestos National Emission Standards for Hazardous Air Pollutants, as amended through January 16, 1991. All asbestos-containing materials shall be removed prior to the training fire. Asphalt shingles may be burned in a training fire only if the notification to the director contains testing results indicating that none of the layers of the asphalt shingles contain asbestos. Each fire department may conduct no more than two training fires per calendar year where asphalt roofing has not been removed, provided that for each of those training fires the asphalt roofing material present has been tested to ensure that it does not contain asbestos. Rubber tires may not be burned during a training fire.

- h. Paper or plastic pesticide containers and seed corn bags. The disposal by open burning of paper or plastic pesticide containers (except those formerly containing organic forms of beryllium, selenium, mercury, lead, cadmium or arsenic) and seed corn bags resulting from farming activities occurring on the premises. Such open burning shall be limited to areas located at least one-fourth mile from any building inhabited by other than the landowner or tenant conducting the open burning, livestock area, wildlife area, or water source. The amount of paper or plastic pesticide containers and seed corn bags that can be disposed of by open burning shall not exceed one day's accumulation or 50 pounds, whichever is less. However, when the burning of paper or plastic pesticide containers or seed corn bags causes a nuisance, the director may take action to secure relocation of the burning operation. Since the concentration levels of pesticide combustion products near the fire may be hazardous, the person conducting the open burning should take precautions to avoid inhalation of the pesticide combustion products.
- i. Agricultural structures. The open burning of agricultural structures, provided that the open burning occurs on the premises and, for agricultural structures located within a city or town, at least one-fourth mile from any building inhabited by a person other than the landowner, a tenant, or an employee of the landowner or tenant conducting the open burning unless a written waiver in the form of an affidavit is submitted by the owner of the building to the department prior to the open burning; all chemicals and asphalt shingles are removed; burning is conducted only when weather conditions are favorable with respect to surrounding property; and permission from the local fire chief is secured in advance of the burning. Rubber tires shall not be used to ignite agricultural structures.

For the purposes of this subrule, "agricultural structures" means barns, machine sheds, storage cribs, animal confinement buildings, and homes located on the premises and used in conjunction with crop production, livestock or poultry raising and feeding operations.

23.2(4) Unavailability of exemptions in certain areas. Notwithstanding 23.2(2) and 23.2(3) "b," "d," "f," and "i," no person shall allow, cause or permit the open burning of trees or tree trimmings, residential or landscape waste or agricultural structures in the cities of: Cedar Rapids, Marion, Hiawatha, Council Bluffs, Carter Lake, Des Moines, West Des Moines, Clive, Windsor Heights, Urbandale, and Pleasant Hill.

This rule is intended to implement Iowa Code section 455B.133.

567—23.3(455B) Specific contaminants.

- **23.3(1)** *General.* The emission standards contained in this rule shall apply to each source operation unless a specific emission standard for the process involved is prescribed elsewhere in this chapter, in which case the specific standard shall apply.
- **23.3(2)** *Particulate matter.* No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567—Chapter 24.
- a. Process weight rate. The emission of particulate matter from any process shall not exceed the amount determined from Table I, except as provided in 567—21.2(455B), 23.1(455B), 23.4(455B) and 567—Chapter 24. If the director determines that a process complying with the emission rates specified in Table I is causing or will cause air pollution in a specific area of the state, an emission standard of 0.1 grain per standard cubic foot of exhaust gas may be imposed.

TABLE I ALLOWABLE RATE OF EMISSION BASED ON PROCESS WEIGHT RATE*

| Process Weight Rate | | Emission Rate | Process Weight Rate | | Emission Rate |
|---------------------|---------|---------------|---------------------|----------|---------------|
| Lb/Hr | Tons/Hr | Lb/Hr | Lb/Hr | Tons/Hr | Lb/Hr |
| 100 | 0.05 | 0.55 | 16,000 | 8.00 | 16.5 |
| 200 | 0.10 | 0.88 | 18,000 | 9.00 | 17.9 |
| 400 | 0.20 | 1.40 | 20,000 | 10.00 | 19.2 |
| 600 | 0.30 | 1.83 | 30,000 | 15.00 | 25.2 |
| 800 | 0.40 | 2.22 | 40,000 | 20.00 | 30.5 |
| 1,000 | 0.50 | 2.58 | 50,000 | 25.00 | 35.4 |
| 1,500 | 0.75 | 3.38 | 60,000 | 30.00 | 40.0 |
| 2,000 | 1.00 | 4.10 | 70,000 | 35.00 | 41.3 |
| 2,500 | 1.25 | 4.76 | 80,000 | 40.00 | 42.5 |
| 3,000 | 1.50 | 5.38 | 90,000 | 45.00 | 43.6 |
| 3,500 | 1.75 | 5.96 | 100,000 | 50.00 | 44.6 |
| 4,000 | 2.00 | 6.52 | 120,000 | 60.00 | 46.3 |
| 5,000 | 2.50 | 7.58 | 140,000 | 70.00 | 47.8 |
| 6,000 | 3.00 | 8.56 | 160,000 | 80.00 | 49.0 |
| 7,000 | 3.50 | 9.49 | 200,000 | 100.00 | 51.2 |
| 8,000 | 4.00 | 10.4 | 1,000,000 | 500.00 | 69.0 |
| 9,000 | 4.50 | 11.2 | 2,000,000 | 1,000.00 | 77.6 |
| 10,000 | 5.00 | 12.0 | 6,000,000 | 3,000.00 | 92.7 |
| 12,000 | 6.00 | 13.6 | | | |

^{*}Interpolation of the data in this table for process weight rates up to $60,000 \, lb/hr$ shall be accomplished by the use of the equation

 $E=4.10 P^{0.67}$,

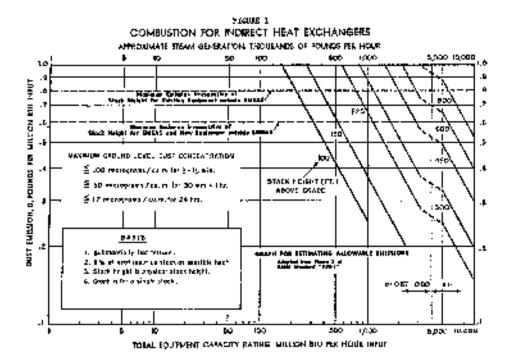
and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation

E=55.0 P^{0.11}—40,

where E = rate of emission in lb/hr, and

P = process weight in tons/hr

- b. Combustion for indirect heating. Emissions of particulate matter from the combustion of fuel for indirect heating or for power generation shall be limited by the ASME Standard APS-1, Second Edition, November, 1968, "Recommended Guide for the Control of Dust Emission—Combustion for Indirect Heat Exchangers." For the purpose of this paragraph, the allowable emissions shall be calculated from equation (15) in that standard, with Comax²=50 micrograms per cubic meter. Allowable emissions from a single stack may be estimated from Figure 1. The maximum ground level dust concentrations designated are above the background level. For plants with 4,000 million Btu/hour input or more, the "a" factor shall be 1.0. In plants with less than 4,000 million Btu/hour input, appropriate "a" factors, less than 1.0, shall be applied. Pertinent correction factors, as specified in the standard, shall be applied for installations with multiple stacks. However, for fuel-burning units in operation on January 13, 1976, the maximum allowable emissions calculated under APS-1 for the facility's equipment configuration on January 13, 1976, shall not be increased even if the changes in the equipment or stack configuration would otherwise allow a recalculation and a higher maximum allowable emission under APS-1.
- (1) Outside any standard metropolitan statistical area, the maximum allowable emissions from each stack, irrespective of stack height, shall be 0.8 pounds of particulates per million Btu input.
- (2) Inside any standard metropolitan statistical area, the maximum allowable emission from each stack, irrespective of stack height, shall be 0.6 pounds of particulates per million Btu input.
- (3) For a new fossil fuel-fired steam generating unit of more than 250 million Btu per hour heat input, 23.1(2) "a" shall apply. For a new unit of between 150 million and 250 million (inclusive) Btu per hour heat input, the maximum allowable emissions from such new unit shall be 0.2 pounds of particulates per million Btu of heat input. For a new unit of less than 150 million Btu per hour heat input, the maximum allowable emissions from such new unit shall be 0.6 pounds of particulates per million Btu of heat input.
- (4) Measurements of emissions from a particulate source will be made in accordance with the provisions of 567—Chapter 25.



(5) For fuel-burning sources in operation prior to July 29, 1977, which are not subject to 23.1(2) and which significantly impact a primary or secondary particulate standard nonattainment area, the emission limitations specified in this subparagraph apply. A significant impact shall be equal to or exceeding 5 micrograms of particulate matter per cubic meter of air (24-hour average) or 1 microgram of particulate matter per cubic meter of air (annual average) determined by an EPA approved single source dispersion model using allowable emission rates and five-year worst case meteorological conditions. In the case where two or more boilers discharge into a common stack, the applicable stack emission limitation shall be based upon the heat input of the largest operating boiler. The plantwide allowable emission limitation shall be the weighted average of the allowable emission limitations for each stack or the applicable APS-1 plantwide standard as determined under paragraph 23.3(2)"b," whichever is more stringent.

The maximum allowable emission rate for a single stack with a total heat input capacity less than 250 million Btu per hour shall be 0.60 pound of particulate matter per million Btu heat input; the maximum allowable emission rate for a single stack with a total heat input capacity greater than or equal to 250 million Btu per hour and less than 500 million Btu per hour shall be 0.40 pound of particulate matter per million Btu heat input; the maximum allowable emission rate for a single stack with a total heat input capacity greater than or equal to 500 million Btu per hour shall be 0.30 pound of particulate matter per million Btu heat input; except that the maximum allowable emission rate for the stack serving Unit #1 of Iowa Public Service at Port Neal shall be 0.50 pound of particulate matter per million Btu heat input and the maximum allowable emission rate for the stack serving boiler #6 of Muscatine Power and Water during periods when only boiler #6 is operating shall be 0.65 pound of particulate matter per million Btu heat input.

All sources regulated under this subparagraph shall demonstrate compliance by October 1, 1981; however, a source is considered to be in compliance with this subparagraph if by October 1, 1981, it is on a compliance schedule to be completed as expeditiously as possible, but no later than December 31, 1982.

- c. Fugitive dust.
- (1) Attainment and unclassified areas. No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The public highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not be limited to, the following procedures.
- 1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
- 2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
- 3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizer or limestone.
- 4. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
- 5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.
- (2) Nonattainment areas. Subparagraph (1) notwithstanding, no person shall allow, cause or permit any visible emission of fugitive dust in a nonattainment area for particulate matter to go beyond the lot line of the property on which a traditional source is located without taking reasonable precautions to prevent emission. Traditional source means a source category for which a particulate emission standard has been established in 23.1(2), 23.3(2)"a," 23.3(2)"b" or 23.4(455B) and includes a quarry operation, haul road or parking lot associated with a traditional source. This paragraph does not modify the emission standard stated in 23.1(2), 23.3(2)"a," 23.3(2)"b" or 23.4(455B), but rather establishes a separate requirement for fugitive dust from such sources. For guidance on the types of controls which may constitute reasonable precautions, see "Identification of Techniques for the Control of Industrial Fugitive Dust Emissions*," adopted by the commission on May 19, 1981.

*Available from the department

- (3) Reclassified areas. Reasonable precautions implemented pursuant to the nonattainment area provisions of subparagraph (2) shall remain in effect if the nonattainment area is redesignated to either attainment or unclassified after March 6, 1980.
- d. Visible emissions. No person shall allow, cause or permit the emission of visible air contaminants into the atmosphere from any equipment, internal combustion engine, premise fire, open fire or stack, equal to or in excess of 40 percent opacity or that level specified in a construction permit, except as provided below and in 567—Chapter 24.
- (1) Residential heating equipment. Residential heating equipment serving dwellings of four family units or less is exempt.
- (2) Gasoline-powered vehicles. No person shall allow, cause or permit the emission of visible air contaminants from gasoline-powered motor vehicles for longer than five consecutive seconds.
- (3) Diesel-powered vehicles. No person shall allow, cause or permit the emission of visible air contaminants from diesel-powered motor vehicles in excess of 40 percent opacity, for longer than five consecutive seconds.
- (4) *Diesel-powered locomotives*. No person shall allow, cause or permit the emission of visible air contaminants from diesel-powered locomotives in excess of 40 percent opacity, except for a maximum period of 40 consecutive seconds during acceleration under load, or for a period of four consecutive minutes when a locomotive is loaded after a period of idling.
- (5) Startup and testing. Initial start and warmup of a cold engine, the testing of an engine for trouble, diagnosis or repair, or engine research and development activities, is exempt.
- (6) *Uncombined water.* The provisions of this paragraph shall apply to any emission which would be in violation of these provisions except for the presence of uncombined water, such as condensed water vapor.
- **23.3(3)** *Sulfur compounds.* The provisions of this subrule shall apply to any installation from which sulfur compounds are emitted into the atmosphere.
 - a. Sulfur dioxide from use of solid fuels.
- (1) No person shall allow, cause, or permit the emission of sulfur dioxide into the atmosphere from an existing solid fuel-burning unit, (i.e., a unit which was in operation or for which components had been purchased, or which was under construction prior to September 23, 1970), in an amount greater than 6 pounds, replicated maximum three-hour average, per million Btu of heat input if such unit is located within the following counties: Black Hawk, Clinton, Des Moines, Dubuque, Jackson, Lee, Linn, Lousia, Muscatine and Scott.
- (2) No person shall allow, cause, or permit the emission of sulfur dioxide into the atmosphere from an existing solid fuel-burning unit, (i.e., a unit which was in operation or for which components had been purchased, or which was under construction prior to September 23, 1970), in an amount greater than 5 pounds, replicated maximum three-hour average, per million Btu of heat input if such unit is located within the remaining 89 counties of the state not listed in subparagraph 23.3(3) "a"(1).
- (3) No person shall allow, cause, or permit the emission of sulfur dioxide into the atmosphere from any new solid fuel-burning unit (i.e., a unit which was not in operation or for which components had not been purchased, or which was not under construction prior to September 23, 1970) which has a capacity of 250 million Btu or less per hour heat input, in an amount greater than 6 pounds, replicated maximum three-hour average, per million Btu of heat input.
- (4) Subparagraphs (1) through (3) notwithstanding, a fossil fuel-fired steam generator to which 23.1(2)"a," 23.1(2)"z" or 23.1(2)"ccc" applies shall comply with 23.1(2)"a," 23.1(2)"z" or 23.1(2)"ccc," respectively.

- b. Sulfur dioxide from use of liquid fuels. No person shall allow, cause, or permit the emission of sulfur dioxide into the atmosphere in an amount greater than 2.5 pounds of sulfur dioxide, replicated maximum three-hour average, per million Btu of heat input from a liquid fuel-burning unit. Notwith-standing this paragraph, a fossil fuel-fired steam generator to which 23.1(2)"a," 23.1(2)"z" or 23.1(2)"ccc" applies shall comply with 23.1(2)"a," 23.1(2)"z" or 23.1(2)"ccc."
- c. Sulfur dioxide from sulfuric acid manufacture. After January 1, 1975, no person shall allow, cause or permit the emission of sulfur dioxide from an existing sulfuric acid manufacturing plant in excess of 30 pounds of sulfur dioxide, maximum three-hour average, per ton of product calculated as 100 percent sulfuric acid.
- d. Acid mist from sulfuric acid manufacture. After January 1, 1974, no person shall allow, cause or permit the emission of acid mist calculated as sulfuric acid from an existing sulfuric acid manufacturing plant in excess of 0.5 pounds, maximum three-hour average, per ton of product calculated as 100 percent sulfuric acid.
- e. Other processes capable of emitting sulfur dioxide. After January 1, 1974, no person shall allow, cause or permit the emission of sulfur dioxide from any process, other than sulfuric acid manufacture, in excess of 500 parts per million, based on volume. This paragraph shall not apply to devices which have been installed for air pollution abatement purposes where it is demonstrated by the owner of the source that the ambient air quality standards are not being exceeded.

This rule is intended to implement Iowa Code section 455B.133.

567—23.4(455B) Specific processes.

23.4(1) General. The provisions of this rule shall not apply to those facilities for which performance standards are specified in 23.1(2). The emission standards specified in this rule shall apply and those specified in 23.3(2) "a" and 23.3(2) "b" shall not apply to each process of the types listed in the following subrules, except as provided below.

EXCEPTION: Whenever the director determines that a process complying with the emission standard prescribed in this section is causing or will cause air pollution in a specific area of the state, the specific emission standard may be suspended and compliance with the provisions of 23.3(455B) may be required in such instance.

- **23.4(2)** Asphalt batching plants. No person shall cause, allow or permit the operation of an asphalt batching plant in a manner such that the particulate matter discharged to the atmosphere exceeds 0.15 grain per standard cubic foot of exhaust gas.
- **23.4(3)** Cement kilns. Cement kilns shall be equipped with air pollution control devices to reduce the particulate matter in the gas discharged to the atmosphere to no more than 0.3 percent of the particulate matter entering the air pollution control device. Regardless of the degree of efficiency of the air pollution control device, particulate matter discharged from such kilns shall not exceed 0.1 grain per standard cubic foot of exhaust gas.
- **23.4(4)** Cupolas for metallurgical melting. The emissions of particulate matter from all new foundry cupolas, and from all existing foundry cupolas with a process weight rate in excess of 20,000 pounds per hour, shall not exceed the amount determined from Table I of these rules, except as provided in 567—Chapter 24.

The emissions of particulate matter from all existing foundry cupolas with a process weight rate less than or equal to 20,000 pounds per hour shall not exceed the amount determined from Table II of these rules, except as provided in 567—Chapter 24.

TABLE II ALLOWABLE EMISSIONS FROM EXISTING SMALL FOUNDRY CUPOLAS

| Process weight rate | Allowable emission | | |
|---------------------|--------------------|--|--|
| (lb/hr) | (lb/hr) | | |
| 1,000 | 3.05 | | |
| 2,000 | 4.70 | | |
| 3,000 | 6.35 | | |
| 4,000 | 8.00 | | |
| 5,000 | 9.58 | | |
| 6,000 | 11.30 | | |
| 7,000 | 12.90 | | |
| 8,000 | 14.30 | | |
| 9,000 | 15.50 | | |
| 10,000 | 16.65 | | |
| 12,000 | 18.70 | | |
| 16,000 | 21.60 | | |
| 18,000 | 23.40 | | |
| 20,000 | 25.10 | | |

- **23.4(5)** Electric furnaces for metallurgical melting. The emissions of particulate matter to the atmosphere from electric furnaces used for metallurgical melting shall not exceed 0.1 grain per standard cubic foot of exhaust gas.
- **23.4(6)** Sand handling and surface finishing operations in metal processing. This subrule shall apply to any new foundry or metal processing operation not properly termed a combustion, melting, baking or pouring operation. For purposes of this subrule, a new process is any process which has not started operation, or the construction of which has not been commenced, or the components of which have not been ordered or contracts for the construction of which have not been let on August 1, 1977. No person shall allow, cause or permit the operation of any equipment designed for sand shakeout, mulling, molding, cleaning, preparation, reclamation or rejuvenation or any equipment for abrasive cleaning, shot blasting, grinding, cutting, sawing or buffing in such a manner that particulate matter discharged from any stack exceeds 0.05 grains per dry standard cubic foot of exhaust gas, regardless of the types and number of operations that discharge from the stack.
- **23.4(7)** *Grain handling and processing plants.* No person shall cause, allow or permit the operation of equipment at a permanent installation, for the handling or processing of grain, grain products and grain by-products such that the particulate matter discharged to the atmosphere exceeds 0.1 grain per standard cubic foot of exhaust gas.
- **23.4(8)** *Lime kilns.* No person shall cause, allow or permit the operation of a kiln for the processing of limestone such that the particulate matter in the gas discharged to the atmosphere exceeds 0.1 grain per standard cubic foot of exhaust gas.

- **23.4(9)** *Meat smokehouses.* No person shall cause, allow or permit the operation of a meat smokehouse or a group of meat smokehouses, which consume more than ten pounds of wood, sawdust or other material per hour such that the particulate matter discharged to the atmosphere exceeds 0.2 grain per standard cubic foot of exhaust gas.
 - **23.4(10)** *Phosphate processing plants.*
- a. Phosphoric acid manufacture. No person shall allow, cause or permit the operation of equipment for the manufacture of phosphoric acid that was in existence on October 22, 1974, in a manner that produces more than 0.04 pound of fluoride per ton of phosphorous pentoxide or equivalent input.
- b. Diammonium phosphate manufacture. No person shall allow, cause or permit the operation of equipment for the manufacture of diammonium phosphate that was in existence on October 22, 1974, in a manner that produces more than 0.15 pound of fluoride per ton of phosphorous pentoxide or equivalent input.
- c. Nitrophosphate manufacture. No person shall allow, cause or permit the operation of equipment for the manufacture of nitrophosphate in a manner that produces more than 0.06 pound of fluoride per ton of phosphorus pentoxide or equivalent input.
- d. No person shall allow, cause or permit the operation of equipment for the processing of phosphate ore, rock or other phosphatic material (other than equipment used for the manufacture of phosphoric acid, diammonium phosphate or nitrophosphate) in a manner that the unit emissions of fluoride exceed 0.4 pound of fluoride per ton of phosphorous pentoxide or its equivalent input.
- e. Notwithstanding "a" through "d," no person shall allow, cause or permit the operation of equipment for the processing of phosphorous ore, rock or other phosphatic material including, but not limited to, phosphoric acid, in a manner that emissions of fluorides exceed 100 pounds per day.
- f. "Fluoride" means elemental fluorine and all fluoride compounds as measured by reference methods specified in Appendix A to 40 CFR Part 60 as amended through March 12, 1996.
- g. Calculation. The allowable total emission of fluoride shall be calculated by multiplying the unit emission specified above by the expressed design production capacity of the process equipment.
- **23.4(11)** *Portland cement concrete batching plants.* No person shall cause, allow or permit the operation of a Portland cement concrete batching plant such that the particulate matter discharged to the atmosphere exceeds 0.1 grain per standard cubic foot of exhaust gas.
- **23.4(12)*** *Incinerators.* No person shall cause, allow or permit the operation of an incinerator unless provided with appropriate control of emissions of particulate matter and visible air contaminants.
- *Introductory paragraph, effective July 1, 1978
- a. Particulate matter. No person shall cause, allow or permit the operation of an incinerator with a rated refuse burning capacity of 1000 or more pounds per hour in a manner such that the particulate matter discharged to the atmosphere exceeds 0.2 grain per standard cubic foot of exhaust gas adjusted to 12 percent carbon dioxide.

No person shall cause, allow or permit the operation of an incinerator with a rated refuse burning capacity of less than 1000 pounds per hour in a manner such that the particulate matter discharged to the atmosphere exceeds 0.35 grain per standard cubic foot of exhaust gas adjusted to 12 percent carbon dioxide.

b. Visible emissions. No person shall allow, cause or permit the operation of an incinerator in a manner such that it produces visible air contaminants in excess of 40 percent opacity; except that visible air contaminants in excess of 60 percent opacity may be emitted for a period or period aggregating not more than 3 minutes in any 60-minute period during an operation breakdown or during the cleaning of air pollution control equipment.

23.4(13) Painting and surface-coating operations. No person shall allow, cause or permit painting and surface-coating operations in a manner such that particulate matter in the gas discharge exceeds 0.01 grain per standard cubic foot of exhaust gas.

This rule is intended to implement Iowa Code section 455B.133.

567—23.5(455B) Anaerobic lagoons.

23.5(1)* Evaluation of application for permits for animal feeding operations using anaerobic lagoons.

- a. General.
- (1) Depth. A liquid depth of 15-20 feet is preferred if soil and other site conditions allow. Anaerobic lagoons with liquid depth less than 8 feet are unapprovable.
- (2) Inlet. One subsurface inlet at the center of an anaerobic lagoon or dual (subsurface and surface) inlets are preferred to increase dispersion. If a center inlet is not provided, the inlet structure shall be located at the center of the longest side of the lagoon.
- (3) Shape. Long, narrow lagoons shapes decrease waste dispersion and should be avoided. Anaerobic lagoons with a length-to-width ratio of greater than 3:1 shall not be allowed.
- (4) Aeration. Aeration shall be treatment as an "add-on-process," and shall not eliminate the need for compliance with all anaerobic lagoon criteria contained in these rules.
- (5) Waste loading frequency. The anaerobic lagoon loading frequency shall be at least once per week.
- (6) Design procedure. Total anaerobic lagoon volume shall be determined by summation of: minimum design volume; minimum dilution volume (not less than 50 percent of minimum design volume); waste storage between periods of disposal; and precipitation storage between periods of disposal.
- (7) Waste storage period. Annual or more frequent waste removal, preferably prior to May 1 or after September 15 of the given year, from the anaerobic lagoon shall be practiced to minimize odor production. Design waste storage volume between disposal periods shall not exceed the volume required to store 14 months' waste production.
 - b. Minimum design volume and loading rate.
- (1) For all animal species other than beef cattle, there shall be 1000 cubic feet minimum design volume for each 5 pounds of volatile solids produced per day if the volatile solids produced per day are 6000 pounds or fewer and for each 4 pounds if the volatile solids produced per day are more than 6000 pounds. For beef cattle, there shall be 1000 cubic feet minimum design volume for each 10 pounds of volatile solids produced per day.
- (2) In Lyon, Sioux, Plymouth, Woodbury, Osceola, Dickinson, Emmett, Kossuth, O'Brien, Clay, Palo Alto, Cherokee, Buena Vista, Pocahontas, Humboldt, Ida, Sac, Calhoun, and Webster counties for all animal species other than beef there shall be 1000 cubic feet minimum design volume for each 4.5 pounds of volatile solids produced if the volatile solids produced per day are 6000 pounds or fewer. However, if a water analysis as required by 567—subparagraph 22.1(1)"e"(5), indicates that the sulfate level is below 500 milligrams per liter, then the rate is 5.0 pounds of volatile solids per 1000 cubic feet

- (3) In determining design volume under this paragraph, credit shall be given for removal of volatile solids from the waste stream prior to discharge to the lagoon. The credit shall be in the form of an adjustment to the volatile solids produced per day. The adjustment shall be at the rate of .50 pound for each pound of volatile solids removed. For example, if a swine facility produces 7,000 pounds of volatile solids per day, and if 2,000 pounds of volatile solids per day are removed, the volatile solids produced per day would be reduced by 1,000 pounds, leaving an adjusted pounds of volatile solids produced per day of 6,000 pounds (for which the loading rate would be 5 pounds according to subparagraph (1)).
- (4) Credit shall be given for mechanical aeration if the upper one-third of the lagoon volume is mixed by the aeration equipment and if at least 50 percent of the oxygen requirement of the waste is supplied by the aeration equipment. The credit shall be in the form of an increase in the maximum loading rate (which is the equivalent of a decrease in the minimum design volume) in accordance with Table III.

TABLE III SUMMARY OF CREDIT FOR MECHANICAL AERATION

| % of Oxygen | Pounds Volatile Solids per 1000 cubic feet | | | | | |
|----------------|--|---|---|---|--|--|
| Supplied | Beef | Other than Beef | | | | |
| | daily max in all counties | less than or equal to 6000 lb v.s. daily max | less than or equal to 6000 lb v.s. daily max in special counties of 23.5(3)"b"(2) | greater than 6000 lb v.s. daily max in all counties | | |
| 0-50 | 10.0 | 5.0 | 4.5 | 4.0 | | |
| 50 | 12.5 | 6.3 | 5.6 | 5.0 | | |
| 60 | 13.3 | 6.6 | 6.1 | 5.5 | | |
| 70 | 14.0 | 7.0 | 6.5 | 6.0 | | |
| 80 | 14.8 | 7.4 | 6.9 | 6.5 | | |
| 90 | 15.5 | 7.8 | 7.4 | 7.0 | | |
| 100 | 16.3 | 8.1 | 7.8 | 7.5 | | |
| 110 | 17.0 | 8.5 | 8.3 | 8.0 | | |
| 120 | 17.8 | 8.9 | 8.7 | 8.5 | | |
| 130 | 18.5 | 9.3 | 9.1 | 9.0 | | |
| 140 | 19.3 | 9.6 | 9.6 | 9.5 | | |
| 150 | 20.0 | 10.0 | 10.0 | 10.0 | | |

- (5) If a credit for solids removal is given in accordance with subparagraph (3), the credit for qualified aeration shall still be given. The applicant shall submit evidence of the biochemical oxygen demand (five day) (BOD₅) of the waste after the solids removal so that the aeration credit can be calculated based on an adjustment rate of .50 pound for each pound of solids removed.
- (6) American Society of Agricultural Engineer's Standards, "Manure Production and Characteristics," D384, shall be used in determining the biochemical oxygen demand (five day) production and volatile solid production of various animal species.

- c. Rescinded, effective 12/19/79.
- d. Sulfate. It is recommended that, if the sulfate content of the water supply exceeds 250 mg/l, then an alternate supply of water for dilution should be sought.
- e. Initial lagoon loading. Prior to the discharge of any waste to the lagoon, the lagoon shall be filled to a minimum of 50 percent of its minimum design volume with fresh water and until the lagoon is filled to its minimum design volume, equal amounts of fresh water shall be added to the lagoon at any time wastes are discharged to the lagoon.
 - 23.5(2) Criteria for approval of industrial anaerobic lagoons.
 - a. Lagoons designed to treat 100,000 gpd or less.
- (1) The sulfate content of the water supply shall not exceed 250 mg/l. However, this paragraph does not apply to an expansion of an industrial anaerobic lagoon facility which was constructed prior to February 22, 1979.
- (2) The design loading rate for the total lagoon volume shall not be less than 10 pounds nor more than 20 pounds of biochemical oxygen demand (five day) per thousand cubic feet per day.
 - b. Lagoons designed to treat more than 100,000 gpd.
- (1) The sulfate content of the water supply shall not exceed 100 mg/l. However, this paragraph does not apply to an expansion of an industrial anaerobic lagoon facility which was constructed prior to February 22, 1979.
- (2) The design loading rate for the total lagoon volume shall not be less than 10 pounds nor more than 20 pounds of biochemical oxygen demand (five day) per thousand cubic feet per day.

This rule is intended to implement Iowa Code section 455B.133.

567—23.6(455B) Alternative emission limits (the "bubble concept"). Emission limits for individual emission points included in 23.3(455B) (except 23.3(2)"d," 23.3(2)"b"(3), and 23.3(3)"a"(3)) and 23.4(455B) (except 23.4(12)"b" and 23.4(6)) may be replaced by alternative emission limits. The alternative emission limits must be consistent with 567—22.7(455B) and 567—subrule 25.1(12). Under this rule, less stringent control limits where costs of emission control are high may be allowed in exchange for more stringent control limits where costs of control are less expensive.

Rules 23.3(455B) to 23.6(455B) are intended to implement Iowa Code section 455B.133.

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